



**Performance Audit
Fire Department:
Safeguarding Controlled Substances**

October 2016



07-2016

**Office of the City Auditor
City of Kansas City, Missouri**



Office of the City Auditor

21st Floor, City Hall
414 East 12th Street
Kansas City, Missouri 64106

(816) 513-3300
Fax: (816) 513-3305

October 19, 2016

Honorable Mayor and Members of the City Council:

This audit focuses on determining whether the Kansas City Fire Department (KCFD) has implemented safeguards to protect controlled substances used on its ambulances and advanced life support (ALS) pumper trucks. Controlled substances include pain relievers, tranquilizers, stimulants, and sedatives available by prescription. They have a potential for abuse and addiction and therefore are at risk of diversion for nonmedical use. Paramedics administer the substances to patients as medical needs arise.

The Fire Department has implemented safeguards over controlled substances used on its ambulances and ALS pumpers including storing drugs in locked storage compartments; performing some physical inventories of drugs; disposing of partially used drugs in front of witnesses; and tracking the chain of custody of drugs between shifts; however, the department should improve some of its controlled substance safeguards.

Controls over drug vaults used to store controlled substances on ambulances and ALS pumpers should be strengthened by ensuring drugs are always locked in vaults when not in use and deactivating drug vault access cards immediately after changes in employment status.

The Fire Department needs to improve its tracking of expired drugs. Expired drugs are not logged when removed from circulation and a physical inventory is not compared to the expected numbers of expired drugs. The department also needs to perform a comprehensive annual, written inventory of all drugs. The tracking of expired drugs and annual inventory should help ensure all drugs are accounted for and help prevent loss or theft.

The Fire Department should segregate ordering, pickup, and payment of controlled substances. Although we found no discrepancies between what the department ordered from the pharmacy and what was entered into the department's inventory, segregating these duties should help prevent theft from going undetected and should help protect its employees from unwarranted accusations. The department can also strengthen its ability to deter theft by enforcing its policy to require chain of custody signatures when drug boxes are exchanged between paramedics and the department delivery driver.

The Fire Department should also update and/or develop written policies and procedures over controlled substances. Policies and procedures serve as a guide to enable staff to be consistent in their actions and outline the authority and responsibility of individual employees.

We make recommendations to improve the physical security of drugs; improve the ability to detect inventory errors and loss; and establish and document appropriate employee roles and responsibilities.

The draft report was made available to the fire chief on August 30, 2016 for review and comment. His response is appended. We would like to thank Fire Department staff for their assistance and cooperation during this audit. The audit team for this project was Terry Bray and Sue Polys.

A handwritten signature in blue ink, appearing to read "Douglas Jones", is centered on the page. The signature is fluid and cursive.

Douglas Jones
City Auditor

Fire Department: Safeguarding Controlled Substances

Table of Contents

Introduction	1
Objectives	1
Scope and Methodology	1
Background	3
Findings and Recommendations	5
Fire Has Processes to Safeguard Controlled Substances; Some Improvements Needed	5
Fire Department Has Safeguards Over Controlled Substances	5
Drug Vault Controls Need Improvement	6
Fire Department Should Track Expired Drugs More Closely	7
Annual Inventory of Controlled Substances Needed	8
Ordering, Pickup, and Payment of Controlled Substances Should be Segregated	8
Fire Should Enforce Drug Box Chain of Custody Procedures	9
Fire Should Update Controlled Substance Policies and Procedures	9
Recommendations	10
Appendix A	11
Fire Chief's Response	11

Introduction

Objectives

We conducted this audit of the Fire Department’s safeguards over controlled substances under the authority of Article II, Section 216 of the Charter of Kansas City, Missouri, which establishes the Office of the City Auditor and outlines the city auditor’s primary duties.

A performance audit provides “findings or conclusions based on an evaluation of sufficient, appropriate evidence against criteria. Performance audits provide objective analysis to assist management and those charged with governance and oversight in using the information to improve program performance and operations, reduce costs, facilitate decision making by parties with responsibility to oversee or initiate corrective action, and contribute to public accountability.”¹

This report is designed to answer the following question:

- Has the Kansas City Fire Department implemented processes to safeguard controlled substances?

Scope and Methodology

Our review focuses on whether the Kansas City Fire Department’s (KCFD) Emergency Medical Service (EMS) has implemented safeguards for controlled substances that address state and federal laws, department policies and procedures, and recommended practices. Our audit methods included:

- Reviewing federal and state laws and department policies and procedures to identify EMS controlled substance requirements regarding registration, security, records, inventories, and disposal.
- Reviewing recommended practices to identify criteria for safeguarding controlled substances.

¹ Comptroller General of the United States, *Government Auditing Standards* (Washington, DC: U.S. Government Printing Office, 2011), p. 17.

- Interviewing KCFD paramedics, Emergency Medical Technicians (EMTs), management, information technology, quality improvement, and emergency supply staff and observing some staff perform their duties to identify current practices.
- Reviewing KCFD documentation to determine whether emergency supply and emergency medical staff followed controlled substance procedures.
- Comparing KCFD purchase records and inventory records to pharmacy sales records from May 1, 2013 to February 29, 2016 to determine whether all controlled substances purchased by the department were added to the department's inventory.
- Conducting a physical count of all expired drugs on hand and comparing it to KCFD's written documentation to determine whether KCFD could account for all expired drugs.
- Assessing how controlled substances are stored to determine whether they were physically secure.
- Testing paramedic, EMT, and auditor access cards to confirm appropriate drug vault access.
- Comparing employment status and position title to drug vault access records to determine whether those with access are current employees with a legitimate need for access.

We conducted this performance audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives. No information was omitted from this report because it was deemed privileged or confidential.

In conducting our audit work, we identified some issues related to the management of controlled substances that needed to be addressed by management; however they were not specifically relevant to the audit scope or did not present a high enough level of concern to be included in the audit report. We communicated this information to the fire chief in a separate memorandum.

Background

The Kansas City Fire Department (KCFD) carries controlled substances on ambulances and advanced life support pumper trucks. Paramedics administer the substances to patients as medical needs arise. Emergency medical technicians assist paramedics. Department emergency supply staff order, track, and inventory controlled substances.

KCFD is registered with the federal Drug Enforcement Administration and the Missouri Department of Health and Senior Services, Bureau of Narcotics and Dangerous Drugs to administer controlled substances. In order to administer controlled substances in their emergency medical role, federal and state regulations require KCFD to register, provide controlled substance security, track inventory from purchase to proper disposal, and maintain records.

Findings and Recommendations

Fire Has Processes to Safeguard Controlled Substances; Some Improvements Needed

The Fire Department has implemented safeguards over controlled substances used on its ambulances and advanced life support pumpers (ALS); however, some of the drug safeguards should be improved. Controls over drug vaults that store controlled substances on ambulances and ALS pumpers should be strengthened. Some paramedics are not using the ambulance drug vaults to secure controlled substances assigned to their vehicle when they forget their access card. The department is not deactivating access cards immediately when an employee leaves employment or moves to an ineligible position, leaving the system at risk for misuse.

The Fire Department needs to improve its tracking of expired drugs. A physical inventory is not compared to the expected numbers of expired drugs to determine whether any are missing. The department also needs to perform a comprehensive annual, written inventory of all drugs. This tracking of drug inventory and comparison to expected numbers should ensure all drugs are accounted for and help prevent loss and theft.

The Fire Department should segregate ordering, pickup, and payment of controlled substances. Segregating these duties should help prevent theft from going undetected and should help protect department employees from unwarranted accusations. The department can strengthen its ability to deter theft by enforcing its policy to require chain of custody signatures when drug boxes are exchanged between paramedics and the department delivery driver.

The Fire Department should also update and/or develop written policies and procedures over controlled substances to serve as a guide to enable staff to be consistent in their actions and outline the authority and responsibility of individual employees.

Fire Department Has Safeguards Over Controlled Substances

The Fire Department's handling of controlled substances includes several safeguards. The department physically secures bulk controlled substances and drugs deployed in the field in locked storage

compartments. The department tracks its supply of bulk drugs by frequently performing physical inventories. Paramedics report disposing of partially used drugs in front of a witness as required by regulation and to help prevent misuse. Paramedics passing an opened drug box to the paramedic on the next shift document the change in chain of custody making responsibility for the drugs explicit. The department uses a Drug Enforcement Administration authorized reverse distributor to dispose of expired drugs.

Drug Vault Controls Need Improvement

The safeguards over drug vaults used to secure controlled substances on ambulances and ALS pumpers need strengthening. When some paramedics forget their vault access cards, they are not securing drugs in the vault. The department is not immediately deactivating drug vault access when employees with access leave the department or change positions and no longer require it.

Drugs are not always secure when paramedics forget their vault access cards. Ambulance and ALS pumpers have locked drug vaults that store controlled substances until they are needed for a patient. Staff use an access card to open the vault. Paramedics reported instances when they forgot their access cards and could not access the drug vault on their vehicle. They stated that when they did not have their access card, they kept the drug box on their person or hid the drug box on the ambulance during their shift. The Fire Department should provide effective controls and procedures against theft and diversion. The purpose of the drug vault is to keep the drugs locked and secure when they are not in use. The drug vault is a control that the department has implemented to protect the drugs from diversion and it should not be circumvented.

Department guidelines require ambulance qualified staff to carry their access card continuously while on duty.² Management stated that if a paramedic forgets his or her access card, he or she should go home to retrieve it.

In order for the drug vault to be effective at safeguarding controlled substances, the fire chief should establish a procedure that ensures that paramedics have their access cards before they begin their shift.

The Fire Department is not removing drug vault access immediately following a change in employment status. Fire IT management said they receive notification when employees leave and every six months to

² *Kansas City, Missouri Fire Department General Administrative Guideline, 7-13, Effective May 1, 2010.*

a year they check access for accuracy. Even if terminated employees turn in their access cards, if the access card is not deactivated, then whoever possesses the card can access the drug vault. Information technology security practices recommend that access lists be updated frequently to ensure authorizations are current and to protect organization assets. We found that several former Fire Department employees retained an active status for months after they left city employment or moved to an ineligible position. We notified department management of terminated employees whose card access was never deactivated and an employee whose new position did not require access and management reported they subsequently removed the access.

In order to ensure only current, eligible employees have drug vault access, the fire chief should ensure employees with drug vault access who leave department employment or move to an ineligible department position for drug vault access have their drug vault access deactivated immediately.

Fire Department Should Track Expired Drugs More Closely

The Fire Department does not adequately track expired drugs. When the department's controlled substances expire, Fire Department staff pulls the expired drugs from circulation, records them as expired on that day's paperwork, and then stores the expired drugs until they are sent to an authorized disposal company. The department does not maintain a complete log of expired drugs and compare the log to a physical count of expired drugs to ensure all expired drugs are accounted for. The Fire Department should provide effective controls and procedures against theft and diversion. Having a procedure in place to track expired drugs should serve as both a deterrent to theft and reveal a problem with lost or stolen expired drugs that requires investigation.

To determine whether the department had all of the expired drugs it should have, we created a comprehensive spreadsheet of expired drugs and compared it to the physical inventory. We found that for two of the three controlled substances stocked by the department, there were more expired drugs in the physical inventory than could be accounted for by department records. The physical inventory for one drug was higher by a few doses; for another drug the physical inventory was higher by more than 25 doses. The third substance had a few doses less in the physical inventory than would be expected based on department records. Department management could not explain the discrepancies.

In order to provide a deterrent against theft and help identify potential theft, loss, or errors, the fire chief should ensure staff keeps a log of

expired drugs, periodically performs a physical inventory of expired drugs, and compares logged expired drugs to the physical inventory.

Annual Inventory of Controlled Substances Needed

The Fire Department is not conducting a comprehensive annual inventory of controlled substances in its custody. According to recommended practices, comparing physical inventories to records helps secure and safeguard vulnerable assets. KCFD management reports conducting frequent inventories of bulk drugs on hand and separate inventories of controlled substances on static ambulances and ALS pumpers on a rolling schedule. However, these inventories are not reconciled with each other and do not include expired drugs.

Performing a comprehensive annual physical inventory provides an opportunity to demonstrate that the department is paying attention to their stock, which should have a deterrent effect for theft. It also helps identify loss and error. To help deter theft and identify loss, the fire chief should ensure the department conducts and documents an annual inventory of all controlled substances.

Ordering, Pickup, and Payment of Controlled Substances Should be Segregated

The Fire Department currently has one person who orders, picks up, and pays for controlled substances from the pharmacy. Recommended practices state that duties like ordering, receiving, and paying should be segregated among different individuals for each of the duties.

Inadequate segregation of duties increases the risk that a theft could occur and go undetected. For example, a staff person could order the controlled substances, retrieve them, and pay for them, but never deliver them to the department and no one would know that they were missing. While we found no discrepancies to suggest any theft, segregating those duties helps protect both the city and its employees.

Proper segregation of duties reduces the risk that unintentional errors or fraud can go undetected by management. Segregation of duties also protects employees. It prevents unwarranted suspicion of honest employees if drugs are missing. In order to reduce the risk of controlled substances being misappropriated and protect employees from unwarranted accusations, the fire chief should ensure that ordering, picking up, and paying for controlled substances are segregated.

Fire Should Enforce Drug Box Chain of Custody Procedures

When a Fire Department delivery driver exchanges an unused, sealed drug box for a used, unsealed drug box with a paramedic in the field, there is no written acknowledgement of the change in custody. When paramedics use some controlled substances from a drug box, the department tries to exchange that used box with an unused drug box. Department policy states that during a field transfer, the paramedic and delivery driver will exchange a used drug box for a sealed drug box and both sign the appropriate form as acknowledgment of the exchange. Three of four paramedics we interviewed that perform drug box transfers in the field stated that no signatures were required when exchanging unsealed drug boxes for sealed drug boxes with the department delivery driver. We also observed during our ride along with the delivery driver that there was not a written change of custody documented. Having the new party sign acceptance for the drug box establishes who is responsible for the contents and helps deter theft.

To ensure that the department clearly establishes who is responsible for drug boxes, the fire chief should ensure that delivery staff and paramedics sign for custody of drug boxes during field exchanges.

Fire Should Update Controlled Substance Policies and Procedures

Some of the Fire Department's written policies and procedures for safeguarding controlled substances are outdated or do not match current practices. In addition, the department does not have written procedures for some processes.

Many department policies have not been updated since the Fire Department took over Municipal Ambulance Services Trust (MAST) in 2010 and include procedures that do not match the department's current practices. The department does not have written procedures for several safeguards including the ordering, pickup, and delivery of controlled substances and disposing of expired drugs, which are both areas that we noted problems with earlier in this report.

Having current written policies and procedures is essential to effective safeguarding of controlled substances. For staff, written policies and procedures can communicate how the job should be performed and serve as a guide to enable staff to be consistent in their actions. In addition, written policies and procedures can outline the authority and responsibilities of individual employees; serve as a reference tool for infrequently encountered situations; establish management expectations; and lessen the threat to continuity posed by employee turnover.

In order to ensure that staff knows the procedures required for handling controlled substances, the fire chief should update and/or develop written policies and procedures for controlled substances.

Recommendations

1. The fire chief should establish a procedure that ensures that paramedics have their access cards before they begin their shift.
2. The fire chief should ensure employees with drug vault access who leave department employment or move to an ineligible department position for drug vault access have their drug vault access deactivated immediately.
3. The fire chief should ensure staff keeps a log of expired drugs, periodically performs a physical inventory of expired drugs, and compares logged expired drugs to the physical inventory.
4. The fire chief should ensure the department conducts and documents an annual inventory of all controlled substances.
5. The fire chief should ensure that ordering, picking up, and paying for controlled substances are segregated.
6. The fire chief should ensure that delivery staff and paramedics sign for custody of controlled substance drug boxes during field exchanges.
7. The fire chief should update and/or develop written policies and procedures for controlled substances.

Appendix A

Fire Chief's Response

CITY OF FOUNTAINS
HEART OF THE NATION



KANSAS CITY
MISSOURI

Interdepartmental Communications

RECEIVED

OCT 12 2016

CITY AUDITOR'S OFFICE

Date: October 5, 2016

To: Douglas Jones, City Auditor

From: Paul Berardi, Fire Chief 

Subject: Response to Draft Audit Report on Safeguarding Controlled Substances

Thank you for performing this important audit regarding the Fire Department's safeguards of controlled substances that are used in the scope of our advanced life support patient care mission. While your audit answers the basic question in the affirmative, we agree that the recommendations your audit suggests will further tighten control and enhance critical checks and balances. Each recommendation is addressed below.

1. *The fire chief should establish a procedure that ensures that paramedics have their access cards before beginning their shift.*

The Fire Department agrees with this recommendation and will establish a policy to ensure paramedics have their access card at the start of the shift. The policy will include an alternative access card system to ensure that access occurrences to controlled substances are logged and assigned to an individual accurately, yet do not unnecessarily interrupt emergency operations. The Logistics Division will require paramedics to utilize their individual access cards to check out narcotics. If an employee does not have a card, a uniquely identified loaner access card will be issued for the shift. A departmental policy is being drafted to memorialize this practice. A procedure is established in GAG 7-13 that address lost or misplaced access cards. This GAG will be updated and reviewed with all ambulance qualified personnel by January 1, 2017.

2. *The fire chief should ensure employees with drug vault access who leave department employment or move to a department position that is not eligible for drug vault access have their drug vault access card deactivated immediately.*

The Fire Department agrees with this recommendation. Currently, upon employment separation or employee status change, a group email is distributed by the Assistant to the Fire Chief of Human Resources to departmental divisions that have specific responsibilities to administer the status change. In response to this recommendation, Fire Department IT will be included in the group email and they will deactivate the access card. The Department's employee separation policy will reflect this change by December 1, 2016.

3. *The fire chief should ensure staff keeps a log of expired drugs, periodically performs a physical inventory of expired drugs, and compares logged expired drugs to the physical inventory.*

The Fire Department agrees with the recommendation, and will create and implement a policy outlining a monthly physical inventory and quarterly disposal of expired drugs including a monthly comparison of expired drugs to the physical inventory.

4. *The fire chief should ensure the department conducts and documents an annual inventory of controlled substances.*

The Fire Department agrees with the recommendation. Currently the Department conducts periodic inventory of controlled substances maintained in the Logistics Division's secured area, and also an inventory of controlled substances of the static ambulances and ALS pumpers on a rolling 30-day schedule. From this point forward, the Logistics Division of the Fire Department will conduct an annual inventory in November of each year beginning in 2016.

5. *The fire chief should ensure that ordering, picking up, and paying for controlled substances are segregated.*

The Fire Department agrees and will develop a policy that delineates the segregation of placing an order for controlled substances, taking delivery and/or picking up of controlled substances, and paying for controlled substances. This policy shall be developed and implemented by January 1, 2017.

6. *The fire chief should ensure that delivery staff and paramedics sign for custody of controlled substance drug boxes during field exchanges.*

The Fire Department agrees with the recommendation. The pertinent FD policy is delineated in GOG 10-26. KCFD staff will review, update, ensure adequate training, and enforce the revised policy to establish additional checks and balances so that the log is checked by a Logistics Assistant Division Chief

upon each return to the EST Office. This revision will be implemented by January 1, 2017

7. *The fire chief should update and/or develop written policies and procedures for controlled substances.*

The Fire Department agrees with the recommendation. It is an ongoing objective for all divisions of the Fire Department to review and update written policies. Policies pertinent to controlled substances shall be assigned high priority to ensure that this work is completed as soon as practical. At the time of this response, this task has been assigned and process of review has been initiated.